BRAIN RESEARCH

VOL. 529 NOS. 1/2 | CONTENTS | 8 OCTOBER 1990

Announcement from the Publisher v

Research Reports

Metabolic effects obtained from excitatory amino acid stimulation of the sulcal prefrontal cortex
I.S. McGregor, J.A. Menéndez and D.M. Atrens (Australia) 1

Neurotoxic effects of excitatory amino acids in the mouse spinal cord: quisqualate and kainate but not *N*-methyl-D-aspartate induce permanent neural damage
G. Urca and R. Urca (Israel) 7

Effects of dietary zinc status on seizure susceptibility and hippocampal zinc content in the *El* (epilepsy) mouse
M. Fukahori and M. Itoh (Japan) 16

Odor memory and odor learning in rats with lesions of the lateral olfactory tract and mediodorsal thalamic nucleus
B.M. Slotnick and J.M. Risser (U.S.A.) 23

Locally evoked potentials in slices of the rat nucleus accumbens: NMDA and non-NMDA receptor mediated components and modulation by GABA
C.M.A. Pennartz, P.H. Boeijinga and F.H. Lopes da Silva (The Netherlands) 30

Brain isozyme of glycogen phosphorylase: immunohistological localization within the central nervous system
P.C. Ignacio, B.A. Baldwin, V.K. Vijayan, R.C. Tait and F.A. Gorin (U.S.A.) 42

Path analysis of sex difference, forebrain commissure area and brain size in relation to degree of laterality in selectively bred mice
B. Cassells, R.L. Collins and D. Wahlsten (Canada, U.S.A.) 50

The GABA and substance P input to dopaminergic neurones in the substantia nigra of the rat
J.P. Bolam and Y. Smith (U.K.) 57

The initial period of peripheral nerve regeneration and the importance of the local environment for the conditioning lesion effect
J. Sjöberg and M. Kanje (Sweden) 79

Methylenedioxymethamphetamine-induced hyperthermia and neurotoxicity are independently mediated by 5-HT_2 receptors
C.J. Schmidt and C.K. Black, B.M. Abbate and V.L. Taylor (U.S.A.) 85

Dermatan sulfate and de-sulfated heparin solubilized collagen-tailed acetylcholinesterase from the rat neuromuscular junction
R. von Bernhardi and N.C. Inestrosa (Chile) 91

Effects of membrane depolarization on intracellular calcium in single nerve terminals
E.L. Stuenkel (U.S.A.) 96

Role of the medial septum and hippocampal theta rhythm in exploration-related synaptic efficacy changes in rat fascia dentata
E.J. Green, B.L. McNaughton and C.A. Barnes (U.S.A.) 102

Frequency-specific plasticity of single unit discharges in the rat medial geniculate body
J.-M. Edeline (France) 109

Gender and gonadectomy influence specific proteins in the cerebellar cortex of the adult rat: a two-dimensional gel electrophoretic analysis
M. Litteria (U.S.A.) 120

Intracerebroventricularly applied peptidase inhibitors increase endogenous angiotensin levels
C.M. Batt, L.L. Jensen, J.M. Hanesworth, J.W. Harding and J.W. Wright (U.S.A.) 126

Tooth pulp-evoked potentials in the trigeminal brainstem nuclear complex
W.K. Dong, E.H. Chudler and Y. Kawakami (U.S.A.) 131

Simultaneous development of opioid tolerance and opioid antagonist-induced receptor upregulation
B.C. Yoburn, V. Sierra and K. Lutfy (U.S.A.) 143

Cardiopulmonary sympathetic afferent input to lower thoracic spinal neurons
W.S. Ammons (U.S.A.) 149

Vocalization-related stapedius muscle activity in different age chickens (*Gallus Gallus*), and its role in vocal development
S. Grassi, F. Ottaviani and D. Bambagioni (Italy) 158

The postsubicular cortex in the rat: characterization of the fourth region of the subicular cortex and its connections
T. van Groen and J.M. Wyss (U.S.A.) 165

Oxytocinergic innervation of the rat spinal cord. An electron microscopic study
P. Rousselot, G. Papadopoulos, A. Merighi, D.A. Poulain and D.T. Theodosis (France) 178

Quinolate-induced cortical cholinergic damage: modulation by tryptophan metabolites
K. Jhamandas, R.J. Boegman, R.J. Beninger and M. Bialik (Canada) 185

Synaptosomal ATPase activities in temporal cortex and hippocampal formation of humans with focal epilepsy
A.K. Nagy, C.R. Houser and A.V. Delgado-Escueta (U.S.A.) 192

Abnormal architecture and connections disclosed by neurofilament staining in the cerebral cortex of autoimmune mice
G.F. Sherman, J.S. Stone, D.M. Press, G.D. Rosen and A.M. Galaburda (U.S.A.) 202

Localized alterations of dopamine receptor binding in rat brain by repeated electroconvulsive shock: an autoradiographic study
A.I. Barkai, M. Durkin and H.D. Nelson (U.S.A.) 208

(contents continued on p. 360)

Cited in Biological Abstracts (BIOSIS) — Chem. Abstracts — Index Medicus — Current Contents (Life Sci.) — Excerpta Medica (EMBASE) — Psychological Abstracts (PsycINFO) — PASCAL M

BRAIN RESEARCH

VOL. 529 NOS. 1/2 | CONTENTS | 8 OCTOBER 1990

Announcement from the Publisher v

Research Reports

Metabolic effects obtained from excitatory amino acid stimulation of the sulcal prefrontal cortex
I.S. McGregor, J.A. Menéndez and D.M. Atrens (Australia) 1

Neurotoxic effects of excitatory amino acids in the mouse spinal cord: quisqualate and kainate but not *N*-methyl-D-aspartate induce permanent neural damage
G. Urca and R. Urca (Israel) 7

Effects of dietary zinc status on seizure susceptibility and hippocampal zinc content in the *El* (epilepsy) mouse
M. Fukahori and M. Itoh (Japan) 16

Odor memory and odor learning in rats with lesions of the lateral olfactory tract and mediodorsal thalamic nucleus
B.M. Slotnick and J.M. Risser (U.S.A.) 23

Locally evoked potentials in slices of the rat nucleus accumbens: NMDA and non-NMDA receptor mediated components and modulation by GABA
C.M.A. Pennartz, P.H. Boeijinga and F.H. Lopes da Silva (The Netherlands) 30

Brain isozyme of glycogen phosphorylase: immunohistological localization within the central nervous system
P.C. Ignacio, B.A. Baldwin, V.K. Vijayan, R.C. Tait and F.A. Gorin (U.S.A.) 42

Path analysis of sex difference, forebrain commissure area and brain size in relation to degree of laterality in selectively bred mice
B. Cassells, R.L. Collins and D. Wahlsten (Canada, U.S.A.) 50

The GABA and substance P input to dopaminergic neurones in the substantia nigra of the rat
J.P. Bolam and Y. Smith (U.K.) 57

The initial period of peripheral nerve regeneration and the importance of the local environment for the conditioning lesion effect
J. Sjöberg and M. Kanje (Sweden) 79

Methylenedioxymethamphetamine-induced hyperthermia and neurotoxicity are independently mediated by 5-HT_2 receptors
C.J. Schmidt and C.K. Black, B.M. Abbate and V.L. Taylor (U.S.A.) 85

Dermatan sulfate and de-sulfated heparin solubilized collagen-tailed acetylcholinesterase from the rat neuromuscular junction
R. von Bernhardi and N.C. Inestrosa (Chile) 91

Effects of membrane depolarization on intracellular calcium in single nerve terminals
E.L. Stuenkel (U.S.A.) 96

Role of the medial septum and hippocampal theta rhythm in exploration-related synaptic efficacy changes in rat fascia dentata
E.J. Green, B.L. McNaughton and C.A. Barnes (U.S.A.) 102

Frequency-specific plasticity of single unit discharges in the rat medial geniculate body
J.-M. Edeline (France) 109

Gender and gonadectomy influence specific proteins in the cerebellar cortex of the adult rat: a two-dimensional gel electrophoretic analysis
M. Litteria (U.S.A.) 120

Intracerebroventricularly applied peptidase inhibitors increase endogenous angiotensin levels
C.M. Batt, L.L. Jensen, J.M. Hanesworth, J.W. Harding and J.W. Wright (U.S.A.) 126

Tooth pulp-evoked potentials in the trigeminal brainstem nuclear complex
W.K. Dong, E.H. Chudler and Y. Kawakami (U.S.A.) 131

Simultaneous development of opioid tolerance and opioid antagonist-induced receptor upregulation
B.C. Yoburn, V. Sierra and K. Lutfy (U.S.A.) 143

Cardiopulmonary sympathetic afferent input to lower thoracic spinal neurons
W.S. Ammons (U.S.A.) 149

Vocalization-related stapedius muscle activity in different age chickens (*Gallus Gallus*), and its role in vocal development
S. Grassi, F. Ottaviani and D. Bambagioni (Italy) 158

The postsubicular cortex in the rat: characterization of the fourth region of the subicular cortex and its connections
T. van Groen and J.M. Wyss (U.S.A.) 165

Oxytocinergic innervation of the rat spinal cord. An electron microscopic study
P. Rousselot, G. Papadopoulos, A. Merighi, D.A. Poulain and D.T. Theodosis (France) 178

Quinolate-induced cortical cholinergic damage: modulation by tryptophan metabolites
K. Jhamandas, R.J. Boegman, R.J. Beninger and M. Bialik (Canada) 185

Synaptosomal ATPase activities in temporal cortex and hippocampal formation of humans with focal epilepsy
A.K. Nagy, C.R. Houser and A.V. Delgado-Escueta (U.S.A.) 192

Abnormal architecture and connections disclosed by neurofilament staining in the cerebral cortex of autoimmune mice
G.F. Sherman, J.S. Stone, D.M. Press, G.D. Rosen and A.M. Galaburda (U.S.A.) 202

Localized alterations of dopamine receptor binding in rat brain by repeated electroconvulsive shock: an autoradiographic study
A.I. Barkai, M. Durkin and H.D. Nelson (U.S.A.) 208

(contents continued on p. 360)

Cited in Biological Abstracts (BIOSIS) — Chem. Abstracts — Index Medicus — Current Contents (Life Sci.) — Excerpta Medica (EMBASE) — Psychological Abstracts (PsycINFO) — PASCAL M

(contents continued)

Release of immunoreactive substance P in the spinal cord during development of acute arthritis in the knee joint of the cat: a study with antibody microprobes
H.-G. Schaible, B. Jarrott, P.J. Hope and A.W. Duggan (U.K.) 214
Local distribution of the effects of sympathetic stimulation on cerebral blood flow in the rat
U.I. Tuor (Canada) 224
Regulation of peripherin and neurofilament expression in regenerating rat motor neurons
C.M. Troy, N.A. Muma, L.A. Greene, D.L. Price and M.L. Shelanski (U.S.A.) 232
Loss of dopamine receptors in the olfactory bulb of patients with Alzheimer's disease
L.D. Loopuijt and J.B. Sebens (The Netherlands) 239
Histochemical demonstration of neural carbonic anhydrase activity within the mandibular molar and incisor tooth pulps of the rat
T. Sugimoto, M. Takemura and N. Mukai (Japan) 245
Swelling-induced changes in electrophysiological properties of cultured astrocytes and oligodendrocytes. I. Effects on membrane potentials, input impedance and cell–cell coupling
H.K. Kimelberg and H. Kettenmann (U.S.A., F.R.G.) 255
Swelling-induced changes in electrophysiological properties of cultured astrocytes and oligodendrocytes. II. Whole-cell currents
H.K. Kimelberg, E. Anderson and H. Kettenmann (U.S.A., F.R.G.) 262
Heterogeneous distribution of cytochrome oxidase activity in the rat substantia nigra: correlation with tyrosine hydroxylase and dynorphin immunoreactivities
L.T. Weiss-Wunder and M.-F. Chesselet (U.S.A.) 269
Effects of non-opioid antitussives on epileptiform activity and NMDA responses in hippocampal and olfactory cortex slices
J.P. Apland and D.J. Braitman (U.S.A.) 277
Enhancement of the Ca^{2+}-current by a serum factor in cultured dorsal root ganglia neurons of the adult guinea pig
K. Yamaguchi (Japan) 286
Effects of fluoxetine or D-fenfluramine on serotonin release from, and levels in, rat frontal cortex
C.F. Sarkissian, R.J. Wurtman, A.N. Morse and R. Gleason (U.S.A.) 294

Short Communications

Immunological studies with a monoclonal antibody suggest a different conformation of neurophysin in parvicellular neurons of rat hypothalamus
G. Nilaver, L.C. Rosenbaum, H.H.M. Van Tol, E.M. Shannon, H.M. Hagman, E.A. Zimmerman and E.A. Neuwelt (U.S.A.) 302
GABA-immunoreactive boutons make synapses with inspiratory neurons of the dorsal respiratory group
J. Lipski, H.J. Waldvogel, P. Pilowsky and C. Jiang (New Zealand) 309
Intensity-dependent nociceptive responses from presumed dopaminergic neurons of the substantia nigra, pars compacta in the rat and their modification by lateral habenula inputs
D.M. Gao, L. Jeaugey, P. Pollak and A.L. Benabid (France) 315
Comparison of angiotensin metabolism by brain membranes from SHR and WKY rats
V.I. Cook, J.W. Wright, S.A. Wright and J.W. Harding (U.S.A.) 320
Blockade of morphine analgesia by both pertussis and cholera toxins in the periaqueductal gray and locus coeruleus
R.J. Bodnar, D. Paul, M. Rosenblum, L. Liu and G.W. Pasternak (U.S.A.) 324
Structure–function relationships of insulin receptor interactions in cultured mouse astrocytes
S.Q. Zhu, W. Kum, S.K.S. Ho, J.D. Young and C.S. Cockram (Hong Kong, People's Republic of China) 329
Relays from the spinal cord and solitary nucleus through the parabrachial nucleus to the forebrain in the cat
K.J. Berkley and S.L. Scofield (U.S.A.) 333
Antibodies to glutamate and aspartate recognize non-endogenous ligands for excitatory amino acid receptors
P. Petrusz, S.L. Van Eyck, R.J. Weinberg and A. Rustioni (U.S.A.) 339
Parallel increases in striatal glutamic acid decarboxylase activity and mRNA levels in rats with lesions of the nigrostriatal pathway
J. Segovia, N.J.K. Tillakaratne, K. Whelan, A.J. Tobin and K. Gale (U.S.A.) 345
Anti-ganglioside antibodies reveal subsets of cultured rat dorsal root ganglion neurons
F.A. Ashton, S.W. Levison and K.D. McCarthy (U.S.A.) 349
Serotonin enhances excitability in neostriatal neurons by reducing voltage-dependent potassium currents
A. Stefani, D.J. Surmeier and S.T. Kitai (U.S.A.) 354

Author Index 358